

REMARKS/ARGUMENTS

Claims 19, 21, 25, 28, and 29 are amended, and claim 20 is canceled. Claims 1-19 and 21-29 are now pending in the application, although claims 16-18 are withdrawn. Applicants respectfully request reconsideration and reexamination of the application.

Applicants acknowledge with appreciation the Examiner's indication that claims 1-15 are allowable and claims 22 and 25-29 contain allowable subject matter. Claims 25, 28, and 29 have been rewritten in independent form to include the features of the base claim and all intervening claims (if any). Claims 26 and 27 continue to depend from claim 25. Consequently, claims 1-15 and 25-29 should clearly be in condition for allowance.

Claims 19-21, 23, and 24 were rejected under 35 USC § 102(b) as anticipated by U.S. Patent No. 6,043,668 to Carney ("Carney"). Applicants respectfully traverse this rejection.

Independent claim 19 has been amended to include the features of former claim 20 and now states that the monitoring and adjusting of the probe card occur at least in part during testing of the electronic device. As discussed below, Carney's system 10 cannot perform the planarity measurements discussed in Carney while testing wafer 14. This is because both the diagnostic test equipment used to test wafer 14 and the planarity verification system shown in Figure 1 of Carney must be connected to terminals 30 and therefore cannot be used at the same time.

As discussed in Carney, diagnostic test equipment is used to test the integrated circuits of wafer 14. The diagnostic test equipment is connected to terminals 30 in place of leads 36. While so connected, test signals generated by the diagnostic equipment are provided through probes 20 to the integrated circuits of wafer 14, and response data generated by the integrated circuits of wafer 14 are provided also through probes 20 back to the diagnostic equipment. (See Carney col. 1, lines 22-49.) Because the diagnostic test equipment used to test wafer 14 and the planarity verification system shown in Figure 1 both must be connected to terminals 30, only one of the diagnostic test equipment or the planarity verification system may be connected and used at any given time. Thus, wafer 14 cannot be tested while the planarity of probes 20 are being verified.

Moreover, during testing of the integrated circuits of wafer 14, the probes 20 must be connected to the input/output bond pads of the integrated circuits in order to write test data into the integrated circuits and read response data generated by the integrated circuits. Thus, during testing, the probes 20 cannot all be connected to the terminal 43 of a power source 42 as shown

in Figure 1 of Carney. In contrast, however, the probes 20 must be connected to the terminal 43 of the power source 42 in order to verify the planarity of probes 20. For this additional reason, wafer 14 cannot be tested while the planarity of probes 20 is being verified.

For all of the foregoing reasons, it is simply impossible for the planarity measurements described in Carney to occur during any testing of wafer 14.

Moreover, the foregoing difference between Carney and claim 19 is not trivial but provides significant advantages. As one nonlimiting example, the position of the probe card and/or the electronic device may change during testing due to changes in temperature. Such thermally induced movement may cause a loss in electrical connections between the probes and the electronic device during testing. Because the method of claim 19 is able to monitor and adjust the distance between the probe card and the electronic device during testing of the electronic device, the method of claim 19 can compensate for thermally induced as well as other movement that occurs during testing. Carney cannot do so. The method of claim 19 is therefore not only different than Carney but superior to Carney.

For all of the foregoing reasons, independent claim 19 patentably distinguishes over Carney. Claims 21, 23, and 24 depend from claim 19 and are therefore also patentable over Carney.

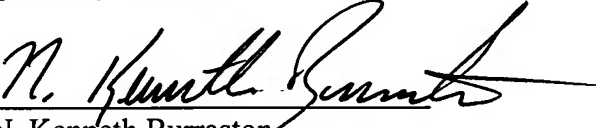
Applicants note that withdrawn claims 16-18 depend from claim 13, which was allowed in the last Office Action. Consequently, claims 16-18 should be rejoined and examined. (MPEP §§ 809 and 809.02(c). See also PTO Form paragraph 8.50.) Claims 16-18 should be allowable over the prior art at least because of their dependency from allowed claim 13.

Applicants acknowledge with appreciation the return of prior listings from two Information Disclosures filed in August 2003 and September 2004. Since then, Applicants have filed two additional Information Disclosure Statements (one in February 2005 and the other in April 2005). For the Examiner's convenience, Applicants enclose another copy of those Information Disclosure Statements and request that the listed art be considered and the listings of prior art be initialed and returned.

In view of the foregoing, Applicants submit that all of the claims are allowable and the application is in condition for allowance. If the Examiner believes that a discussion with Applicants' attorney would be helpful, the Examiner is invited to contact the undersigned at (801) 323-5934.

Respectfully submitted,

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